Smart Skies			
2002 Science			
Core Curriculum			
Utah Science			
Grade 5			
Activity/Lesson	**State**	**Standards**	
Fly by Math	UT	SCI.5.5.1.a	Make a chart and collect data identifying various traits among a given population (e.g., the hand span of students in the classroom, the color and texture of different apples, the number of petals of a given flower).
Smart Skies			
2002 Science			
Core Curriculum			
Utah Science			
Grade 6			
Activity/Lesson	**State**	**Standards**	
Fly by Math	UT	SCI.6.1.1.d	
Fly by Math	UT	SCI.6.2.2.c	Use collected data to compare patterns relating to seasonal daylight changes.
Fly by Math	UT	SCI.6.3.2.b	Describe the role of computers in understanding the solar system (e.g., collecting and interpreting data from observations, predicting motion of objects, operating space probes).
Smart Skies			
2002 Science			
Core Curriculum			
Utah Science			
Grade 7			
Activity/Lesson	**State**	**Standards**	
Fly by Math	UT	SCI.7.1.2.a	Use appropriate instruments to determine mass and volume of solids and liquids and record data.
Smart Skies			
2002 Science			
Core Curriculum			
Utah Science			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Fly by Math	UT	SCI.8.4.3.e	Investigate the principles used to engineer changes in forces and motion.
Fly by Math	UT	SCI.8.4.4.d	Investigate and report the response of various organisms to changes in energy (e.g., plant response to light, human response to motion, sound, light, insects' response to changes in light intensity).
Line Up with Math	UT	SCI.8.4.3.e	Investigate the principles used to engineer changes in forces and motion.

Line Up with Math	UT	SCI.8.4.4.d	Investigate and report the response of various organisms to changes in energy (e.g., plant response to light, human response to motion, sound, light, insects' response to changes in light intensity).
Smart Skies			
2002 Science			
Core Curriculum			
Utah Science			
Grades 9-12 (Physics)			
Activity/Lesson	**State**	**Standards**	
Fly by Math	UT	SCI.9-12.1.1.a	Calculate the average velocity of a moving object using data obtained from measurements of position of the object at two or more times.
Fly by Math	UT	SCI.9-12.1.1.b	Distinguish between distance and displacement.
Fly by Math	UT	SCI.9-12.1.1.c	Distinguish between speed and velocity.
Fly by Math	UT	SCI.9-12.1.1.d	Determine and compare the average and instantaneous velocity of an object from data showing its position at given times.
Fly by Math	UT	SCI.9-12.1.1.e	Collect, graph, and interpret data for position vs. time to describe the motion of an object and compare this motion to the motion of another object.
Fly by Math	UT	SCI.9-12.1.2.c	Collect, graph, and interpret data for velocity vs. time to describe the motion of an object.
Fly by Math	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).
Fly by Math	UT	SCI.9-12.1.3.c	Describe how selecting a specific frame of reference can simplify the description of the motion of an object.
Fly by Math	UT	SCI.9-12.1.4.a	Describe the motion of a moving object on which balanced forces are acting.
Fly by Math	UT	SCI.9-12.1.4.b	Describe the motion of a stationary object on which balanced forces are acting.
Fly by Math	UT	SCI.9-12.2.1.a	Observe and describe forces encountered in everyday life (e.g., braking of an automobile - friction, falling rain drops - gravity, directional compass - magnetic, bathroom scale - elastic or spring).
Fly by Math	UT	SCI.9-12.2.1.b	Use vector diagrams to represent the forces acting on an object.
Fly by Math	UT	SCI.9-12.2.1.c	Measure the forces on an object using appropriate tools.
Fly by Math	UT	SCI.9-12.2.1.d	Calculate the net force acting on an object.
Fly by Math	UT	SCI.9-12.2.2.a	Determine the relationship between the net force on an object and the object's acceleration.
Fly by Math	UT	SCI.9-12.2.2.b	Relate the effect of an object's mass to its acceleration when an unbalanced force is applied.

Fly by Math	UT	SCI.9-12.2.2.c	Determine the relationship between force, mass, and acceleration from experimental data and compare the results to Newton's second law.
Fly by Math	UT	SCI.9-12.2.2.d	Predict the combined effect of multiple forces (e.g., friction, gravity, and normal forces) on an object's motion.
Fly by Math	UT	SCI.9-12.2.3.a	Identify pairs of forces (e.g., action-reaction, equal and opposite) acting between two objects (e.g., two electric charges, a book and the table it rests upon, a person and a rope being pulled).
Fly by Math	UT	SCI.9-12.2.3.b	Determine the magnitude and direction of the acting force when magnitude and direction of the reacting force is known.
Line Up with Math	UT	SCI.9-12.1.1.a	Calculate the average velocity of a moving object using data obtained from measurements of position of the object at two or more times.
Line Up with Math	UT	SCI.9-12.1.1.b	Distinguish between distance and displacement.
Line Up with Math	UT	SCI.9-12.1.1.c	Distinguish between speed and velocity.
Line Up with Math	UT	SCI.9-12.1.1.d	Determine and compare the average and instantaneous velocity of an object from data showing its position at given times.
Line Up with Math	UT	SCI.9-12.1.2.d	Describe the acceleration of an object moving in a circular path at constant speed (i.e., constant speed, but changing direction).
Line Up with Math	UT	SCI.9-12.1.3.c	Describe how selecting a specific frame of reference can simplify the description of the motion of an object.
Line Up with Math	UT	SCI.9-12.1.4.a	Describe the motion of a moving object on which balanced forces are acting.
Line Up with Math	UT	SCI.9-12.1.4.b	Describe the motion of a stationary object on which balanced forces are acting.
Line Up with Math	UT	SCI.9-12.3.2.c	Investigate the relationship of distance between charged objects and the strength of the electric force.